



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/501,724      | 07/15/2004  | Ludwig Bar           | 2001P22564WOUS      | 4377             |

7590 05/16/2006  
Siemens Corporation  
Intellectual Property Department  
170 Wood Avenue South  
Iselin, NJ 08830

EXAMINER

AURORA, REENA

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2862

DATE MAILED: 05/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/501,724

Applicant(s)

BAR ET AL.

Examiner

Reena Aurora

Art Unit

2862

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 February 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 13 - 21 and 23 - 30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13 - 21 and 23 - 30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02/28/2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

This communication is in response to amendment received on 02/28/06.

Applicant has added new claims 28 – 30 and canceled the claim 22.

Claims 13 – 21 and 23 – 30 are presented for examination.

### ***Claim Objections***

Claim 28 is objected to because of the following informalities: line 7, there appears to be a typing error in the phrase "no electrical conductor". For the purpose of examination, examiner is interpreting this phrase as "an electrical conductor". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13 – 21 and 23 - 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hedengren et al. (5,389,876).

As to claim 13, Hedengren et al. (hereinafter Hedengren) discloses an eddy current probe array comprising a flexible base (11, fig. 2c); a first electrical component (12) connected to the flexible base (11); a second electrical component (14) connected to the flexible base (11), the first (12) and second (14) electrical components and the

flexible base (11) being collectively sufficiently flexible such that the flexible base (83, fig. 9) can variably conform on a surface of a test body (91) (col. 11, lines 17 - 23); and a flexible rear layer comprising a ferromagnetic material that at least partially covers the first (12) and second (14) electrical components (col. 10, lines 18 - 23). Hedengren fails to explicitly disclose that the flexible base can variably conform to a radius of curvature down to 50 mm on a surface of a test body. However, since Hedengren discloses that the flexible base can variably conform on to a surface of a test body. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the device of Hedengren to conform the flexible base to a radius of curvature down to 50 mm on a surface of a test body based on the structure of the test body by providing close fitting complement to the surface of the test body resulting in intensified magnetic flux penetration into the test body (Note MPEP2144.04 V D).

As to claim 23, Hedengren discloses an eddy current probe array comprising an eddy current probe array comprising a flexible base (11, fig. 2c); a first electrical component (12) connected to the flexible base (11); a second electrical component (14) connected to the flexible base (11), the first (12) and second (14) electrical components and the flexible base (11) being sufficiently flexible that the flexible base can variably conform to a radius of curvature (col. 11, lines 17 - 23); a rear layer comprising a flexible curable material encapsulating ferrite particles, the rear layer attached to at least one of the electrical components (12, 14) on a non-planer geometric surface of the rear layer to match a non-planer geometric surface of a test body (col. 10, lines 18 - 23). However, since Hedengren discloses that the flexible base can variably conform on to a surface of

Art Unit: 2862

a test body. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the device of Hedengren to conform the flexible base to a radius of curvature down to 50 mm on a surface of a test body based on the structure of the test body by providing close fitting complement to the surface of the test body resulting in intensified magnetic flux penetration into the test body (Note MPEP2144.04 V D).

As to claim 28, Hedengren discloses an eddy current probe array comprising a flexible base layer (11) comprising a front surface and a rear surface, the front surface exposed for contact with a test surface of a test body; a first electrical coil (12) mounted on the rear surface of the flexible base layer (11); a flexible rear layer comprising a ferrite material at least partially covering the first electrical coil (col. 10, lines 18 - 23); an electrical conductor (77, fig. 8d) passing forward from the first electrical coil (72) through the base layer; and the flexible base layer, the first electrical coil (12) and the flexible rear layer forming a stack sufficiently flexible that the front surface of the base layer can variably conform to a radius of curvature (col. 11, lines 17 - 23). However, since Hedengren discloses that the flexible base can variably conform on to a surface of a test body. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the device of Hedengren to conform the flexible base to a radius of curvature down to 50 mm on a surface of a test body based on the structure of the test body by providing close fitting complement to the surface of the test body resulting in intensified magnetic flux penetration into the test body (Note MPEP2144.04 V D).

As to claims 14 - 15 and 24 - 25, Hedengren discloses that the flexible base (11) is a flexible sheet and the sheet is formed from polyimide (col. 6, lines 24 - 30).

As to claims 16 and 26, Hedengren discloses at least one coil (12) is connected to the flexible base (11) as an electrical component and is a copper coil.

As to claims 17 - 19, Hedengren discloses that the flexible rear layer is formed by a polymer sheet filled with ferrite (col. 10, lines 18 - 23).

As to claim 20, Hedengren discloses that the device has at least one coil (12) as an electrical component, that is arranged in a planer manner on the flexible base (11) (col. 9, lines 15 - 20).

As to claims 21 and 27, Hedengren discloses that the device has ferromagnetic signal amplification (col. 8, lines 54 - 55).

As to claim 29, Hedengren discloses a second electrical coil (14) mounted on the rear surface of the flexible base layer surrounding the first electrical coil (12).

As to claim 30, Hedengren discloses at least one electrical conductor (77) connected to the first electrical coil (72) and passing through the flexible rear layer.

### ***Response to Arguments***

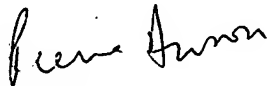
Applicant's arguments with respect to claims 13 - 21 and 23 - 30 have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 2862

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reena Aurora whose telephone number is 571-272-2263. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, E. Lefkowitz can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Reena Aurora